ABSTRACT

This study paid much attention to two research components viz. the estimation of global warming damage cost in respect of the year 2006 and in addition to that a study of weather changing patterns (Maximum, minimum and average temperature variances from January 2005 to May 2007 and rainfall variances from 1987 to 2005) of the Imbulpe Divisional Secretariat Division (IDSD).

This above study area is located in the Blangoda Electorate in the Ratnapura District, Sri Lanka. It consists of 50 Grama Niladari Divisions (GNDs). Land extent and the present population of the area are 23,140 hectares and about 55,000 in respectively.

Even though the study had two research components, the prime objective was to estimate the global warming damage cost in the year 2006 in respect of the ruinous man made frequent forest fires. For this task the primary data (forest fire affected land extents and their diverse types of forests etc.) were collected using the household surveys and the secondary data (Land use types, extents of burnt plantations, population etc.) were collected using maps, pervious reports and from the relevant local authorities concerned. The global warming damage cost was calculated by employing the Turner's method (1994). The estimated global warming damage cost was about Rs. 24.0 million per annum (2006). In addition to the above two tasks major causes of forest fires and their adverse impacts on the environment and the remedial measures to combat forest fires which are related to the study area were clearly ascertained by means of the questionnaire survey data.

Secondly, to forecast the rainfall and the temperature variances in the study area, trend models had been installed using MINITAB (Version 14) statistical package. The obtained results clearly disclosed that the minimum and the average temperatures of the study area has decreased while the maximum temperature has increased with the time (January 2005 to May 2007).The annual rainfall has decreased with the time (1987 to 2005). From what has been mentioned above it is clear that the climatic changes in the study area are due mainly to those frequent forest fires.